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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,403	05/11/2001	Godefridus A.M. Hurkx	PHN 16,741A	8359

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

MALDONADO, JULIO J

ART UNIT PAPER NUMBER

2823

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/854,403

Applicant(s)

HURKX ET AL.

Examiner

Julio J. Maldonado

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 6-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 11-20 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 6-10 are directed to a method of manufacturing a semiconductor device; and claims 11-20 are directed to a semiconductor device. The inventions are related as process of making and product made. Because these inventions are distinct since the search required for claims 6-10 is not required for claims 11-20, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 11-20 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: where claim 1 recite "flux" should recite --concentration--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. Claim 10 recite "...a thin, strongly doped fourth semiconductor region of the first conductivity type is formed between the partial region of the first conductivity type is formed between the partial region of the second semiconductor region and the second connection conductor, preferably simultaneously with the third semiconductor region...". The term preferably renders the claim indefinite since it fails to point out the subject matter as claimed. Also, claim 10 is indefinite because according to claim 6, "...the second conductor is exclusively connected to the second semiconductor region...".

***Allowable Subject Matter***

5. Claims 6-9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph and the claim objections, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Blanchard to U.S. 4,345,265 teaches in Figs.4-6 and related text, a method to form a MOSFET device including providing a substrate (10) of the first conductivity type, and providing thereon a layer (12) of the first conductivity type to form the first semiconductor region (10, 12); forming a second semiconductor region (22, 23) on the first semiconductor region (10, 12), the second semiconductor region having a partial region (22) with a smaller flux of dopant atoms than other part of the second semiconductor region (22, 23); forming a third semiconductor region (32) which lies recessed on another part of the second semiconductor region (see Fig.5-6); and

providing a first and second (36) and a third (40) regions with a connection conductor respectively, wherein the second conductor is adjacent to the partial region of the second semiconductor region (column 3, line 23 – column 6, line 39).

However, Blanchard fails to teach forming an epitaxial layer of the first conductivity type on the substrate; forming the third semiconductor region which lies recessed in the other part, and outside the partial region, of the second semiconductor region; and providing first, second and third connection conductors to the first, second and third regions with a connection conductor respectively, wherein the second conductor is exclusively connected to the second semiconductor region.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Papers related to this application may be submitted directly to Art Unit 2823 by facsimile transmission. Papers should be faxed to Art Unit 2823 via the Art Unit 2823

Art Unit: 2823


Fax Center located in Crystal Plaza 4, room 3C23. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2823 Fax Center number is **(703) 305-3432**. The Art Unit 2823 Fax Center is to be used only for papers related to Art Unit 2823 applications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Julio J. Maldonado** at **(703) 306-0098** and between the hours of 8:00 AM to 4:00 PM (Eastern Standard Time) Monday through Friday or by e-mail via [julio.maldonado@uspto.gov](mailto:julio.maldonado@uspto.gov). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri, can be reached on (703) 306-2794.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Group 2800 Receptionist** at **(703) 308-0956**.



JMR  
8/25/03



George Fourson  
Primary Examiner